Instantaneous Bio-Aerosol Detector Systems (IBADS)

Broad Agency Announcement 04-18

(BAA 04-18)

Proposal Information Pamphlet (PIP)

Department of Homeland Security

Homeland Security Advanced Research Projects Agency (HSARPA)

October 8, 2004

For Questions Regarding This Solicitation:

BAA04-18@dhs.gov

TABLE OF CONTENTS

1 BACKGROUND

The Homeland Security Advanced Research Projects Agency (HSARPA) invests in programs offering the potential for revolutionary changes in technologies that promote homeland security and accelerate the prototyping and deployment of technologies that reduce homeland vulnerabilities. HSARPA performs these functions in part by awarding procurement contracts, grants, cooperative agreements, or other transactions for research or prototypes to public or private entities, businesses, federally funded research and development centers and universities.

A critical area of focus for DHS is the protection of the homeland from the release of a biological agent as demonstrated by the currently deployed BioWatch surveillance system. In FY04 HSARPA initiated two critical bio-sensor development initiatives under the Detection Systems for Biological and Chemical Countermeasures (DSBCC) Program, RA03-01. The Bioagent Autonomous Networked Detectors (BAND) and the Rapid Automated Biological Identification System (RABIS) initiated under RA03-01 will provide a cost effective, robust capability for continuous monitoring for a broad range of potential bio-aerosol threats with very high sensitivity and specificity. As a complement to the technology programs initiated under RA03-01, HSARPA is initiating the Instantaneous Bio-Aerosol Detector Systems (IBADS) program which seeks to develop, test and transition the next generation of rapid bio-aerosol sensors for use in Detect-to-Protect system architectures. The IBADS program will develop optimized sensor systems characterized by the following metrics (see Appendix G for definitions):

- Improved Sensitivity (Level of Detection)
- Low Probability of False Positive (P_{fp})
- High Probability of Detection (P_d)
- Rapid Response Time
- Low Cost of Ownership

The IBADS program will support research to determine trade-offs between the above metrics for selected sensor concepts with a particular emphasis on the relationship of performance to lifecycle cost, facilitating the evaluation of candidate Detect-to-Protect system architectures.

The term “bidders” is used generically to refer to respondents to this BAA. The BAA should not be construed as an Invitation for Bids within the meaning of Federal Acquisition Regulations Part 14.

2 PROGRAM STRUCTURE

This BAA comprises three separate Technical Topic Areas (TTAs). Each TTA solicits a specific approach or tool to augment our detection and analysis capabilities. TTA-1 and

TTA-2 are of higher priority for funding than TTA-3 proposals, subject to availability of funds.

2.1 TTA-1: Biological Fast Aerosol Countermeasure System (BioFACS)

We seek to develop an extremely low cost system for the nearly instantaneous detection of biological aerosols at higher level of detection (LOD) thresholds than those previously sought under the BAND and RABIS initiatives.

Key characteristics:

- Nearly instantaneous detection
- Extremely low acquisition costs
- Extremely low operational costs
- Demonstrated LOD as a function of Probability of Detection (P_d) and Probability of False Positive (P_{fp})

2.2 TTA-2: Biological Confirmation and Detection System (BioCADS)

We seek to develop an integrated trigger-confirmation capability that will have an extremely low overall lifecycle cost. The BioCADS will provide nearly instantaneous detection of biological aerosols at LOD thresholds similar to the BioFACS with a fast confirmation step, which results in an exceedingly low final false alarm rate.

Key characteristics:

- Nearly instantaneous trigger detection
- Moderately low acquisition costs
- Extremely low operational costs
- Moderately fast confirmation step (no greater than 5 minutes, with a goal of approaching the speed of the trigger)
- Extremely low false alarm rate for the confirmation step
- Demonstrated LOD as a function of trigger P_d and the confirmation step P_{fp} (and the resulting impact on the cost of operation)

2.3 TTA-3: Volumetric Bio-Aerosol Instantaneous Detection Systems (VBAIDS)

We seek to develop volumetric bio-aerosol sensors capable of monitoring large indoor and semi-enclosed outdoor spaces. Examples include but are not limited to: auditoriums, indoor and outdoor arenas, airport terminals and concourses, subways, atriums and shopping malls. We are especially interested in the capability to rapidly survey the air volume within these spaces to provide warning prior to warnings provided by deployed point sensor systems such as the BioFACS and BioCADS.

Key characteristics:

- Nearly instantaneous detection
- Continuous near-real time surveillance of the air volume
- Moderately low acquisition costs

- Extremely low operational costs
- Demonstrated LOD as a function of P_d and P_{fp}

3 PROGRAM SCHEDULE AND APPROACH

The objective of the HSARPA IBADS Program is to take advantage of recent advances in aerosol collection and detection technologies to augment the capabilities of existing detection systems to counter a biological attack. Continuation of work initiated under Phase I of the TTAs in this solicitation will depend upon the level of technical accomplishments achieved during Phase I, the availability of funds, and other programmatic considerations such as indications of which types of systems provide the best opportunities for enhanced countermeasures, as determined by HSARPA. HSARPA anticipates making multiple Phase I awards under this solicitation in a phased development approach.

3.1 Program Schedule and Phases

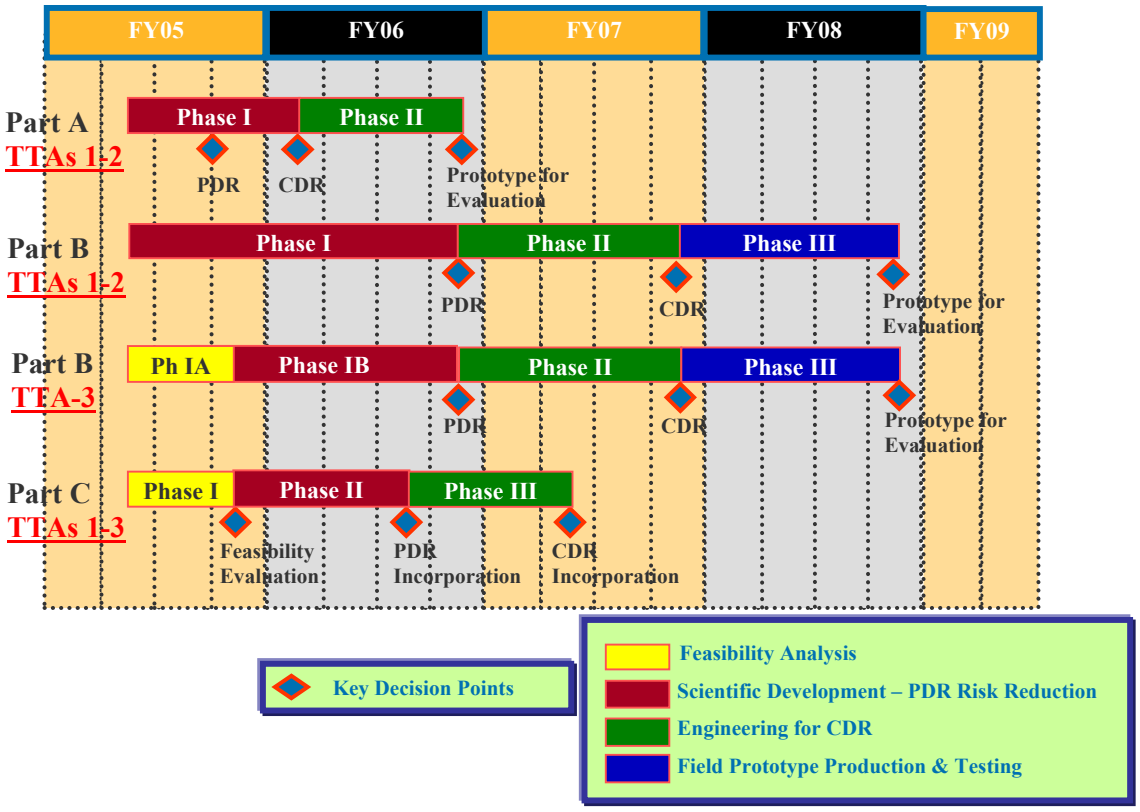

Figure 1. A notional schedule of the program execution timeline. Offerors are encouraged to propose their own schedule based upon their detailed understanding of the technical challenges and their realistic estimate of the technical effort required to solve the problem they propose to address.

Each TTA may be addressed by projects of one of three different Parts. **Part A** projects will address the goal of enhancing capabilities in the near-term by either improving existing deployed systems or rapidly prototyping mature technologies. **Part B** projects will address the goal of developing next generation system capabilities. *For **TTA-3 Part B** proposals, Phase 1 efforts should be split into two sub-phases as described below.* **Part A and B** projects will develop complete system solutions whereas projects of **Part C** will develop enabling component technologies in the context of a specific **Part A or B** system solution. Notional schedules for each of these project types will be described in greater detail below. **Parts A and B** constitute the major objectives of this BAA and will receive priority for funding relative to **Part C**. Part C is intended to facilitate the development of revolutionary components or technologies significantly impacting the ability of Part A and B systems to maximize the above performance and cost objectives.

Part A: Provide near-term improvements in capability with rapid prototype development and testing. It is anticipated that these projects will address prototyping of complete systems and be structured into two phases:

Phase I: Performers will provide detailed performance predictions and lifecycle verses performance cost trades during a short program design phase culminating with a Critical Design Review (CDR).

Phase II: Following a successful CDR, performers will proceed with the rapid development and testing of a prototype or implementation and testing of enhancements to an existing system.

Part B: Develop next-generation systems with significant improvements in both performance and total cost of ownership. It is anticipated that these efforts will be structured in three phases and will culminate in a complete system meeting or exceeding most of the goals of the selected TTA:

Phase I: Performers will conduct the necessary research, development, and demonstrations to validate the concepts proposed. Performers will provide detailed performance predictions and lifecycle cost verses performance trades for the proposed system concept. This phase will culminate in a Preliminary Design Review (PDR). *For **TTA-3 Part B** proposals, Phase I efforts will be split into two sub-phases. Phase I-A will consist of a 6 month feasibility analysis. Phase I-B will be funded as an option. Phase I-A deliverables will consist of a feasibility analysis and a modified Phase 1-B workplan. Phase I-B will conclude with a PDR of the proposed VBAIDS system. Based on an evaluation of the Phase I-A deliverables, HSAPRA will select efforts to fund for Phase I-B.*

Phase II: Following a successful PDR, performers will conduct the necessary engineering and development to present a CDR.

Phase III: Following a successful CDR, performers will proceed to develop and test a prototype.

Part C: Develop revolutionary components, technologies and partial solutions to support Part A and B projects. These enabling concepts must be described in the context of one or more of the system level TTAs including a description of the specific performance and cost enhancement(s) that would be achieved for the overall system if the proposed component technology development is successful. Successful Part C proposals will demonstrate the potential to significantly impact performance and cost metrics of Part A and B systems. Results from the Part C effort will be briefed to Part A and B performers for potential incorporation into the systems under development. It is anticipated that these technology development efforts will be structured into three phases and will produce enabling technologies which can be incorporated into emerging and future system solutions:

Phase I: Performers will conduct a preliminary feasibility analysis for enabling technologies in the context of one or more of the TTAs.

Phase II: Performers will continue development of selected enabling technologies, targeting incorporation into one or more of the ongoing system development PDRs.

Phase III: Following successful inclusion into one or more of the system PDRs, performers will continue development of enabling technologies, targeting incorporation into one or more of the ongoing system development CDRs.

3.2 Government Furnished Equipment and Resources

In support of the TTAs, the Government will consider requests from principal investigators or from teams for Government Furnished Resources (GFR) and Government Furnished Technologies (GFT). As part of this solicitation, HSARPA will publish a list of potentially applicable technologies from the DHS ORD Intramural Program and allow bidders to offer accelerated schedule options based upon the availability of GFR and GFT, when possible.

3.3 Review Panel

A review panel drawn from Government and non-Government experts who have signed appropriate non-disclosure agreements will support the HSARPA Program Manager in performing technical evaluations of the program projects.

3.4 Test and Evaluation Facilities

HSARPA will make available appropriate test and evaluation facilities to support this program. This Government Sponsored Testbed will use a standardized matrix of simulants, near neighbors and clutter to test proposed systems. Simulants will include spores, vegetative bacteria, viruses and proteins. These simulants will be produced with

variation in growth and preparation conditions. Samples will be provided to teams prior to testing. Bidders should provide any specific requirements needed for test and evaluation of their proposed concept. A preliminary Test and Evaluation Plan is presented in Appendix D. Updates to the Test and Evaluation plan will be made available as part of the bidders conference and published at www.hsarpabaa.com. Proposed system concepts must include the necessary communications, data storage, user interface, processing, packaging, etc. required to participate in test activities.

4 IBADS PROGRAM GOALS

The IBADS Program will develop sensors systems to enable Detect-to-Protect systems for the nation's critical infrastructure. Examples of critical infrastructure include but are not limited to: government buildings, airports, subways, office buildings, shopping malls, sports arenas, hotels, and hospitals. Rapid detection of an aerosol release will enable timely implementation of protective measures to protect occupants and minimize the extent of contamination. A secondary objective is to support response and restoration operations and minimize the overall economic impact of a biological attack. Because of the vast array of building and facility designs, no single sensor solution will fit all applications. HSARPA desires to develop sensors that can be rapidly integrated into system architectures meeting the broadest possible range of user requirements. User requirements will vary according to their perceived risk, false positive tolerance and cost sensitivity. It is also likely that the perceived risk may vary over time, creating a need for systems that allow their performance characteristics to be adjusted effectively to fit these varying conditions.

The IBADS program seeks to develop rapid biological aerosol detectors that may be widely distributed throughout a facility for the purpose of providing "low regret" alarms. Low regret alarms may be used to trigger actions that will have minimal impact on facility operations. Examples include, but are not limited to: closing air intakes, shutting down or reconfiguring HVAC systems, and initiating confirmatory tests. Threat agent concentrations near an aerosol release will be significantly greater than levels likely to be observed at a central monitoring location. By enabling placement of detectors nearer to possible aerosol dissemination points, HSARPA intends to trade sensitivity for cost. Therefore, a major objective of the IBADS program will be to perform research to quantify detector metrics (Level of Detection, Probability of Detection, Probability of False Positive, Response Time and Lifecycle Cost) for a range of threat concentrations and environmental conditions and to determine the relationship between performance and lifecycle cost. As part of this effort HSARPA seeks system concepts that include both point and volumetric sensors. Point sensors detect threat aerosols only after they have propagated to the detector location, whereas volumetric sensors are capable of remote monitoring of the air volume in large spaces.

This effort also seeks to lower the cost of confirmation sensors by combining a trigger sensor with an extremely high confidence detection technology. Positive results from a confirmatory test will be used to initiate "high-regret" actions. High-regret actions are those that will greatly alarm or severely inconvenience building or facility occupants and

disrupt operations. Examples of high-regret actions include, but are not limited to: shutting down of facilities, evacuation of personnel, and alerting public health and emergency response personnel. Since high confidence detector systems generally require consumables, use of a trigger to reduce the detector duty cycle offers the promise of substantial cost savings, while still achieving extremely high system performance characteristics. In addition, integration of a low-regret sensor potentially provides the ability to allocate additional time to the confirmation process.

HSARPA intends to implement a test program to aid in the development of and to evaluate the performance of each sensor developed as part of the IBADS program (see Appendix D). Standardized test materials and protocols will be used to ensure that various sensor technologies can be compared effectively. Teams will be provided with labeled and blind samples for use during development. Access to a government sponsored testbed (GST) consisting of an aerosolization chamber will be provided to all teams. Teams will be provided with test windows during which a series of aerosol challenges will be presented to each sensor. During Phase I of this Program the date and duration of aerosol testing will be determined based on the level of maturity of the proposed system. Aerosol challenges will consist of both known and blind trials. During each trial, a series of known challenges will be conducted to provide performers with an opportunity to calibrate their systems.

4.1 TTA-1: Biological Fast Aerosol Countermeasure System (BioFACS)

We seek to develop an extremely low cost system for the nearly instantaneous detection of biological aerosols at higher LOD thresholds than those previously sought under the BAND and RABIS initiatives. BioFACS will have well characterized LOD performance as a function of the Probability of Detection, Response Time and Probability of False Positive under typical operating environments. Users should be able to specify either the P_{fp} or the LOD operating point.

4.1.1 Desired Performance characteristics include, but are not limited to:

- Trigger < 1 min, goal of 15 seconds.
- Receiver Operating Characteristics **(ROC)** curves for 1000, 10,000 and 100,000 CFU(PFU)/Liter of air (Spores, vegetative bacteria, RNA and DNA Viruses). ROC curves for 0.5, 5 and 50 ng/Liter of air for toxins.
- Description of trades-offs between technology options and performance.

4.1.2 Desired Cost characteristics include, but are not limited to:

- Acquisition cost target of < $10K, with <$1000 as an optimal goal in quantities of 1,000
- Minimal yearly Operation and Maintenance (O&M) costs.
- Description of possible trades between acquisition and operating costs.
- Performance level as a function of cost of ownership.

4.2 TTA-2: Biological Confirmation and Detection System (BioCADS)

We seek strategies and new approaches for the detection and confirmation of hazardous biological threats. The trigger portion of the system, possibly based on a BioFACS system, will continuously monitor the air for biological threat aerosols. When a potentially hazardous bio-aerosol is detected, a second sensor system will be triggered to perform a confirmation test. The BioCADS confirmation sensor will only operate when triggered, greatly reducing the required operating frequency and overall complexity of the confirmation sensor. The confirmation sensor must be able to rapidly identify the presence of a biological threat with extremely high confidence. By reducing the need to continuously conduct highly multiplexed confirmation tests, HSARPA intends to gain significant cost savings by dramatically lowering operation and maintenance costs.

4.2.1 Desired Performance characteristics include, but are not limited to:

- No more that 5 minutes to complete a confirmation test with a goal of approaching the speed of the trigger.
- Minimal lag between trigger and start of confirmation test.
- ROC curves for 100, 1000 and 10,000 CFU(PFU)/Liter of air (Spores, vegetative bacteria, RNA and DNA Viruses). ROC curves for 0.05, 0.5 and 5 ng/Liter of air for toxins.
- Description of trades-offs between technology options and performance.

4.2.2 Desired Cost characteristics include, but are not limited to:

- Acquisition target of <$25K, as a function of P_d and P_{fa}.
- O&M cost as a function of P_d, P_{fp} and LOD.
- Description of trades between acquisition and operating costs.
- Performance level as a function of cost of ownership.

4.3 TTA-3: Volumetric Bio-Aerosol Instantaneous Detection Systems (VBAIDS)

Sensor system concepts may potentially employ a single scanning type sensor, cooperative targets, or a distributed array of sensor/receiver units to measure a number of fixed paths through the air volume, or other novel concepts. VBAIDS must be able to interrogate the volume and perform all processing required to identify a suspicious aerosol in near real-time. Use of VBAIDS indoors requires that the system be intrinsically eye-safe, present no radiation hazards, not interfere with electronic systems and create no signatures easily detected by building occupants.

4.3.1 Desired Performance characteristics include, but are not limited to:

- Trigger < 2-3 min, goal of < 1 min (trigger goal includes time required to scan the volume).

- ROC curves for 1000, 10,000 and 100,000 CFU(PFU)/Liter of air (Spores, vegetative bacteria, RNA and DNA Viruses). ROC curves for 0.5, 5 and 50 ng/Liter of air for toxins.
- Description of trades-offs between technology options and performance.

4.3.2 Desired Cost characteristics include, but are not limited to:

- Acquisition cost target of < $50K, with minimal annual O&M costs.
- Description of trades between acquisition and operating costs.
- Performance level as a function of cost of ownership.

For TTA-3 Part B proposals, Phase 1 efforts should be split into two sub-phases. Phase I-A will consist of 6 month feasibility analysis, while Phase I-B will conclude with a Preliminary Design Review. Phase I-A deliverables will consist of a feasibility analysis and a modified Phase 1-B workplan. During the Phase I-A feasibility analysis, Teams will assess the overall technical feasibility of the proposed system concept against the VBAIDS goals and produce a detailed research plan identifying the key scientific and technical issues which must be addressed in Phase I-B to achieve the VBAIDS goals. Teams will deliver a Phase I-B plan that will result in a Preliminary Design Review for the VBAIDS. Based upon evaluation of the Phase I-A feasibility analysis and Phase I-B plans refined during Phase I-A, HSAPRA will select efforts for Phase I-B funding. All Phase I-B awards will be subject to the availability of funding.

5 DELIVERABLES

To the exclusion of exceptions negotiated at time of award, any of the deliverables associated with this Program may be released to outside organizations, both U. S. Government and non-Government, in support of DHS missions. The performer may recommend a preferred format for each deliverable, but the Government will determine the final format. For each Phase, monthly status reports are due within one week after the last day of each month; quarterly reports are due one week prior to the time of the quarterly reviews; and comprehensive Phase deliverables are due within two weeks of the conclusion of each Phase.

5.1 Phase I Technical and Management Deliverables

Brief (not more than one page) narrative reports will be electronically submitted to the HSARPA Program Manager within one week after the last day of each month. These reports will describe the previous 30 calendar days' activity, technical progress achieved against project goals, difficulties encountered, recovery plans (if needed), and explicit technical plans for the next 30 day period.

Quarterly reports (not to exceed 5 pages) will be electronically submitted to the HSARPA Program Manager and are due one week prior to the time of the quarterly reviews. These reports will describe the previous 90 calendar days' activity, principals involved in the

actual work of the period, technical progress achieved against goals, difficulties encountered, funds expended against each sub-task in the previous 90 day period, recovery plans (if needed), and explicit plans for the next 90 day period. Quarterly reviews will be provided in person to the HSARPA Program Manager with a venue, duration, and format determined in consultation with the HSARPA Program Manager.

For a final report, each principal investigator or Team will provide a Technical Report of their work performed during Phase I. This will include, where appropriate, system performance predictions, estimates of cost of ownership, a description of the design trades that resulted in the selected design, and an enumeration of remaining unknowns and uncertainties. This final report will be a cumulative, stand-alone document that describes the work of the entire Phase leading up to it. It should detail how the design concept was refined and why the refinement was undertaken. It must include any technical data gathered, such as measurements taken, models developed, simulation results, and formulations developed. This final report should also include "lessons learned" from the effort, recommendations for future research in this area, and a comprehensive and detailed account of all funds expended.

In cases where performers believe results derived in Phase I justify a Phase II effort, they must also include in their final report a plan for executing Phase II & III, including: an experimental plan for developing and testing the proposed system, and an activity schedule and a budget, including a detailed cost breakdown. Each principal investigator or Team will submit a detailed work plan, including a Statement of Work, for conducting their Phase II effort.

5.2 Phase II and III Technical and Management Deliverables

In addition to the periodic deliverables required from Phases I, the Phase II and III deliverables should include a final report and documentation of all system performance and field tests. The complete list of deliverables should be clearly stated in Volume I, Technical Proposal and include all reports and prototypes. This list is subject to negotiation and update by all parties in the later stages of program execution.

6 INFORMATION FOR OFFERORS

6.1 Eligible Applicants

Single investigators or teams from private sector organizations, Government Laboratories, Federally Funded Research and Development Centers (FFRDCs), and academic institutions, are encouraged to respond. DoE Laboratories may also respond with the exception of those listed in Appendix A. Historically Black Colleges and Universities (HBCU), Minority Institutions (MI), small and disadvantaged businesses (SDB), women-owned businesses (WB), and HUB-zone enterprises are encouraged to submit Proposals, and to join others as team members in submitting Proposals; however, no portion of the BAA will be set-aside for these special entities because of the impracticality of reserving discrete or severable areas of research and development under this topic.

6.2 Organizational Conflict of Interest

Organizational Conflict of Interest issues will be evaluated on a case by case basis as outlined in Appendix F. Offerors who have existing contract(s) to provide Scientific, Engineering, Technical and/or Administrative support directly to the program officers or other operational activities of the Science and Technology Directorate will receive particular scrutiny

6.3 Anticipated Funding

Multiple awards are anticipated. Awards will be made based on the evaluation, funds availability, and other programmatic considerations. The Government reserves the right to fund none, some, parts, or all of the Proposals received. Portions of resulting awards are likely to be segregated into optional tasks. It is the intention upon completion of Proposal evaluation to notify bidders of an initiation of negotiation for awards or rejection of their Proposal. In a limited number of cases, Proposals will be put on hold pending the outcome of other negotiations and the availability of funds. HSARPA requests that those Proposals put on hold remain valid for twelve months after the Proposal closing date.

6.4 Types of Awards Including Other Transactions for Prototypes

Awards may be executed as contracts, grants, cooperative agreements or other transactions. Section 831(a)(2) of the Homeland Security Act of 2002 (Public Law 107-296) gives the Department of Homeland Security (DHS) the same "Other Transactions for Prototypes" authority exercised by the Department of Defense (DoD) under 10 U.S.C. §2371 note. Section 831(a)(2) also imposes the same criteria for award of an "Other Transactions for Prototypes" agreement on DHS as was given to DoD. Proposals should clearly identify which of these instruments is preferred by the bidder. The Government contracts/agreements officer will make the final determination as to the type of instrument.

6.5 BAA Information

Copies of this BAA may be downloaded from the FedBizOpps web site http://www.fedbizopps.gov or from http://www.hsarpabaa.com. Paper copies of the BAA may be obtained by contacting:

Booz Allen Hamilton,
4001 Fairfax Drive, Suite 750
Arlington, VA 22203
POC: Michael Caporusso
Phone: (703) 465-5743

6.6 Submitting a Response to this BAA

White Papers and Proposals will be submitted electronically using the HSARPA BAA Web Site at http://www.hsarpabaa.com. To aid in the management of this solicitation, bidders are required to register in advance to submit White Papers and Proposals. Bidders will not be permitted to electronically submit White Papers or Proposals unless

registered. The registration deadline is listed in Table 1 of Section 6.8. White Papers and Proposals will be disqualified if registration is not completed by the deadline. Instructions for registration can be found at http://www.hsarpabaa.com. Upon successful registration or submission, a file will be sent to the registered email address. Receipt of a file confirms your registration or White Paper or Proposal submission. Please check the contents of the file. If they are incorrect, return to the website and make corrections. While the submission of a White Paper is not a requirement to submitting a Proposal, potential offerors are STRONGLY urged to avail themselves of the White Paper process.

6.6.1 Proprietary Protection

All data uploaded to HSARPA BAA Web Site is protected from public view or download. All submissions will be considered proprietary/source selection sensitive and protected accordingly. Documents may only be reviewed by the registrant, authorized Government representatives, and assigned evaluators.

6.6.2 Multiple Submissions

Organizations are limited to Lead/Prime one Proposal or White Paper for each TTA in this solicitation. In the case where a single concept applies to multiple TTAs, bidders should submit a single White Paper or Proposal selecting a primary TTA for evaluation. In the Proposal the bidder is invited to describe the relevance of the concept to other TTAs in addition to the primary TTA.

6.6.3 Bidder's Conference

HSARPA will hold a Bidders Conference for the IBADS BAA in Washington DC on the date specified in Table 1, section 6.8 below. All interested attendees must register on line at ***https://www.enstg.com/signup/passthru.cfm?ConferenceCode=DHS12154*** or by linking to this site from http://www.hsarpabaa.com. The site will announce the location and include directions from local airports and names and contact information for area hotels. The point of contact for the Bidders Conference is:

Donna Blanger
Booz-Allen Hamilton
4001 Fairfax Drive, Suite 750
Arlington, VA 22203
Ph: 703-807-2795
blanger_donna@bah.com

6.7 Security

Some projects funded under this BAA may require access to and the generation of SECRET data. Bidders to this solicitation will need to provide an appropriate security plan if access to this level of data is required. The DHS may require future phases of this program be performed at a SECRET level.

For submission of classified White Papers or Proposals, or additional questions regarding security, please contact:

Christopher Featherston, HSARPA Security Officer (contractor support)
Email: christopher.featherston@associates.dhs.gov
Phone: 202-254-6126

6.8 Solicitation and Awards Schedule

DATE	EVENT
17 Jun 2004 (Fri)	Draft Statement of Work for Comments released
30 Jul 2004 (Fri)	DSWC comments due
08 Oct 2004 (Thu)	BAA released
10 Nov 2004 (Wed)	Bidders Conference held
12 Nov 2004 (Fri)	White Paper Website Registration deadline
24 Nov 2004 (Mon)	White Paper submissions due
3 Jan 2005 (Mon)	White Paper feedback provided
21 Jan 2005 (Fri)	Proposal Website Registration deadline
02 Feb 2005 (Fri)	Proposals due
01 Mar 2005 (Wed)	Selections announced

Table 1. Schedule of Events.

HSARPA plans to review all White Papers in accordance with the above Solicitation and Awards Schedule using the evaluation criteria described in Section 7. After the White Paper review, HSARPA will notify offerors, electronically or in writing, at its discretion, either encouraging or discouraging submission of full Proposals based upon this review. HSARPA does not intend to provide further feedback or debrief to submitters of white papers for which full Proposals are not encouraged.

HSARPA plans to review all proposals in accordance with the above Solicitation and Awards Schedule. Proposals will be evaluated by a review panel using the criteria specified under Evaluation Criteria in Section 7. Following this review offerors will be notified whether or not their Proposal has been selected for negotiation.

6.9 White Paper Guidance and Content

Offerors are strongly encouraged, but not required, to submit White Papers in advance of full proposals.

White papers should capture the essence of a proposal and are designed to permit offerors an opportunity to obtain feedback from HSARPA on their planned technology development without having to go to the expense and effort of writing a complete Proposal. A white paper may consist of not more than five pages and a one page Quad Chart, for a total of six pages.

If received by the White Paper submission deadline, the White Paper will be evaluated by a review panel comprised of government employees and government contractors specially selected to eliminate potential conflicts of interest. Bidders may request a government-only review, but must indicate so when submitting on the website, and must clearly mark all pages of the White Paper to this effect.

After this evaluation, offerors will be promptly notified either encouraging or discouraging the submission of a full proposal. If the HSARPA determines, based upon the below criteria, that a full proposal should be discouraged, the bidder will be informed in writing. No additional feedback will be provided to bidders when proposals are discouraged. Bidders are not restricted from submitting a proposal even when notified in writing that HSARPA is discouraging a full proposal.

If HSARPA determines, based upon the below criteria, that a full proposal should be encouraged, the bidder will be informed in writing and HSARPA will provide in writing a summary of specific strengths and weaknesses in the white paper.

Notwithstanding a request for a government-only review, the Government intends to use employees and subcontractors of a support contractor to assist in administering the evaluation of White Papers and Proposals. These personnel will have signed, and will be subject to, the terms and conditions of non-disclosure agreements.

6.9.1 Format and size limitations:
A White Paper is an electronic file in PDF format, readable by IBM-compatible PCs, and in a type font no smaller than 12 point. The individual file size must be no more than 5 MB. **White papers may not exceed five pages, and must be accompanied by a one page Quad Chart. Therefore the entire white paper submission will not exceed six pages.**

The White Paper should contain the following information in the following order:

- Quad Chart (one page)
- White paper body (limit of five pages)
    - Title, performer, total cost information
    - Abstract
    - Technical Approach
    - Summary of Personnel and Performer Qualifications and Experience
    - Cost Summary for Phase I

6.9.1.1 Quad Chart
For instructions and sample of a Quad Chart, please refer to Appendix E, or go to **www.hsarpabaa.com**

6.9.1.2 Title, performer, total cost
Provide a Title and give name and address of the Principal Investigator and team members, the name of the performing organization, and the total cost and duration (in months) of Phase I. Provide the TTA number to which you are responding.

6.9.1.3 Abstract

Provide a concise description of the scientific, technical, engineering and management approaches you propose to address the TTA. Describe the various components of the system proposed and relevant details about how they will function together to achieve the goals of the TTA. Point out what is unique about your proposed solution. Include a brief summary of your concept's anticipated performance relative to the TTA goals. **TTA-3 Part B proposals should describe both the Phase I-A effort and optional Phase I-B effort.**

6.9.1.4 Technical Approach

Phase I:

Describe the basic scientific or technical concepts that will be used in each component or subsystem comprising your proposed solution to the problem described in the TTA. What is unique about your solution and what advantages might it afford compared to alternate approaches other workers in this field have taken? What has been the extent of your or your team's past experience in working with or developing the technologies comprising your system? What particular scientific, technical and/or engineering issues need to be addressed and resolved in Phase I to demonstrate feasibility? **TTA-3 Part B proposals should describe both the Phase I-A effort and optional Phase I-B effort.**

Explain how the performance of your proposed solution can be expected to meet and be measured against each of the specific technical attributes and/or performance enhancements described in the TTA section of the BAA. What are the key scientific, technical, or engineering challenges and the timing for each that must be met in order to successfully complete this project? Describe all required material and information, which must be provided by the Government to support the proposed work. Provide a brief summary of the costs to execute Phase I, summarized by task.

Phase II & III:

Briefly explain your concept of how you will develop and demonstrate a system or system component if you are awarded Phase II and III funding. Point out the critical path technologies or key technical challenges you will face when building this system or component and your plans for meeting these challenges. Explain how you will demonstrate the Phase II system or component performance relative to the performance or enhancement goals described in the BAA.

6.10 Proposal Guidance and Content

Bidders are encouraged to initiate Proposal Registration at www.hsarpabaa.com only after the deadline for White Paper feedback provided in Table 1 of Section 6.8 above. Following Proposal registration, bidders may begin submitting Proposals, which must be submitted prior to the Proposal deadline provided in Table 1 of section 6.8 above. Although White Papers are strongly encouraged, bidders may submit a Proposal without a preceding White Paper. Offerors can choose to alter their ideas, concepts, technical approaches, etc. or expand on their original ideas between submission of a White Paper and submission of the full Proposal. Discussion, suggestions, or advice given during communication between the Government and offerors on White Paper topics is not

binding. Offerors are free to submit a full Proposal without regard to any feedback or advice about White Papers that they may have received. Even if the feedback from the Government in response to the White Paper is that a Proposal based on the offered idea is unlikely to receive funding, a full Proposal may still be submitted and will be evaluated uniformly with all other proposal submissions. Proposals consist of three separate documents described in detail below:

- Volume I: Core Technical Proposal.
- Volume II: Management Proposal and Supplementary Technical Data
- Volume III: Cost Proposal.

Volume I is the primary document to be used by the reviewers, with Volumes II and III providing supporting information. The supplemental material in Volumes II and III are to be used at the discretion of the reviewer. The three-volume Proposal comprises PDF files, or, if more convenient for Volume III, a Microsoft Excel file. Each volume must be a separate file, and submitted to the appropriate field on the website. The maximum file size for each volume is 5 MB.

The Volume I, Core Technical Proposal, shall not exceed fifteen (15) pages in a font no smaller than 12 point. **Proposals for which Volume I exceeds the 15 page limit will be disqualified.** Volume II may not exceed fifty (50) pages. There is no page limit on Volume III. The fifteen page limitation for Volume I includes all pictures, figures, tables, and charts in a legible size. Graphic images inserted into the file should minimize file size and support clear display and document printing. Nonconforming Proposals may be rejected without review. The submission of other supporting materials with the Proposal is strongly discouraged and if submitted, will not be reviewed.

6.10.1 Volume I, Technical and Management Proposal (15 page limit inclusive)
Volume I provides the primary technical description of the Proposal. **Volume I is the primary document to be used by the reviewers, with Volumes II and III providing supporting information.** The supplemental material in Volumes II and III are to be used at the discretion of the reviewer.

6.10.1.1 Section I. Official Transmittal Letter:
Official transmittal letter with authorizing official signature. Include the Proposal Title and the specific TTA number that the Proposal addresses.

6.10.1.2 Section II. Abstract of Proposal:
A one page synopsis of the entire Proposal including total costs proposed for each phase. Provide a description of the scientific, technical, engineering and management approach you propose to address the goals of the TTA. Describe the various components of the system proposed and relevant details about how they will function together to achieve the goals of the TTA Point out what is unique about your proposed solution. Include a brief summary of your concept's anticipated performance relative to the TTA goals.

6.10.2 *Section III. Proposal*

This section describes the proposed work and the associated technical and management issues. **TTA-3 Part B proposals should describe both the Phase I-A effort and optional Phase I-B effort.**

a. **Ability of proposed work to meet the program goals.** This section is the centerpiece of the Proposal and should describe the overall methodology and how it will meet the desired attributes and functionality goals specified in the TTA.
b. **Detailed technical descriptions and approach for Phase I.** Identifies the critical issues and plans for executing the Phase I effort.
c. **Overview of Phase II and Phase III technical approach.**
d. **Deliverables.** Provide a brief summary of all deliverables proposed under this effort, including data, software, and reports consistent with the objectives of the work involved.
e. **Management Plan.** Provide a brief summary of the management plan, including an explicit description of what role each participant or team member will play in the project, and their past experience in technical areas related to this Proposal.
f. **Requirements for Government Furnished Resources.** Provide a brief summary of required information and data which must be provided by the Government to support the proposed work, if any.
g. **Cost Summary.** Summarizes the projected total costs for each task in each year of the effort including a summary of subcontracts, man hours, and consumables.

6.10.3 Volume II, Management Proposal (50 page limit inclusive)

a. **Technical Approach for Phase II and III.** Provide a preliminary description of the Phase II effort, including Gantt charts and milestones.
b. **Statement of Work (SOW), Schedule and Milestones.** Provides an integrated display for the proposed research, showing each task in Phase I, including major milestones. Include a summary schedule for Phases II AND III with anticipated milestones. Include a section clearly marked as the Phase I Statement of Work (SOW) you propose to undertake. **It is important to note that the SOW will be used for the initiation of contract negotiations for selected proposals.**
c. **Management Plan and Key personnel.** Describe how the total team effort will be managed and provide rationale for participation of key team members. Provide resumes and curricula vitae (CVs) for each of the key personnel.
d. **Relevant Past Experience.** Presents the proposer's previous accomplishments and work in this and closely related research areas.
e. **Facilities.** Describes key facilities that will be used in the proposed effort. Delineate between classified and unclassified facilities.
f. **Requirements for Government Furnished Resources.** Describe all required information and data with the respective classification level, if known, which must be provided by the Government to support the proposed work, if any.
g. **Security Plan.** Describes the rationale for what aspects of the work, if any, need to be protected, at what level, and propose a strategy for doing so. Provide the collateral clearance level held, if any, by each team member.

h. **Additional technical information or data.**

6.10.4 Volume III, Cost Proposal

6.10.4.1 Section I. Cost Response:

The cost response should be in the offerors format. Detailed Bases of Estimates are not required. Certified cost or pricing data are not required. However, in order for the government to determine the reasonableness, realism and completeness of the Cost Proposal, the following data must be provided for the principal investigator and for each team member and in a cumulative summary:

Labor: Total labor includes direct labor and all indirect expenses associated with labor, to be used in the Phase I period of performance. Labor hours shall be allocated to each work outline element and segmented by team member. A labor summary by work outline is required. Provide a breakdown of labor and rates for each category of personnel to be used on this project.

Direct Materials: Total direct material that will be acquired and/or consumed in the Phase I period of performance. Limit this information to only major items of material and how the estimated expense was derived. For this agreement, a major item exceeds $20,000. Material costs shall be assigned to specific work outline elements. Subcontracts: Describe major efforts to be subcontracted, the source, estimated cost and the basis for this estimate. For this agreement a major effort exceeds $20,000. Subcontract labor and material shall be accounted for per the two paragraphs above. A summary chart showing each major subcontractor labor and material effort by work outline is required.

Travel: Total proposed travel expenditures relating to the Phase I period of performance. Limit this information to the number of trips, location, duration, and purpose of each trip.

Other Costs: Any direct costs not included above. List the item, the estimated cost, and basis for the estimate. The Cost Proposal should be consistent with your proposed SOW. Activities such as demonstrations required to reduce the various technical risks should be identified in the SOW and reflected in the Cost Proposal. The offeror should provide a total estimated price for the major IR&D activities associated with the program. The offeror should state whether each program is a dedicated IR&D or if it is being pursued to benefit other programs as well.

Cost Share: Cost sharing is neither required nor encouraged. Individuals or Teams proposing cost share should identify the amount, timing, and source of funds and provide the supporting rationale for cost share. Costs shared by the team shall be allocated to each relevant work outline element.

6.10.4.2 Section II. Proposed Agreement w/ Attachments:

Awards may be issued as a FAR contract, Other Transaction for Research, Other Transaction for Prototype, cooperative agreement or grant. Bidders should request a specific award mechanism. Teams requesting a non-FAR based award must submit the

rationale for their selection. Information on Other Transaction Authority is given in Appendix C.

6.11 Contact Information

The electronic address for all correspondence related to this IBADS BAA is:

BAA04-18@dhs.gov

To insure proper logging and prompt response to questions about this BAA, potential submitters are encouraged to use this email address for all correspondence.

The HSARPA Program Manager who leads this effort is:
Mr. Michael McLoughlin (HSARPA Program Manager)
michael.mcloughlin@dhs.gov
202-254-6134

The HSARPA Contracting Officer for this effort is:
Ms. Susan Rupprecht
202-254-5856
charlotte.rupprecht@dhs.gov

7 EVALUATION CRITERIA AND SELECTION PROCESS

7.1 White Papers

The evaluation of White Papers will be accomplished through an independent technical review of each using the following criteria, which are listed in descending order of relative importance:

- Potential of the proposed concept to address the program goals described in this document.
- Sound technical and managerial approach to the proposed work, including a demonstrated understanding of the critical technology challenges required to address the desired system performance parameters and a strategy to address those issues, including a risk mitigation strategy.
- Capability to perform proposed work and history of performance of the Team and Team members in developing related technologies and systems.

7.2 Proposals

Volume I, II, and III will be used to evaluate each Proposal. Volume I is the primary document to be used by the reviewers. **Volumes II and III are reviewed at the discretion of the evaluator.** The evaluation of proposals will be accomplished through an independent technical review of each using the following criteria, which are listed in descending order of relative importance:

- Potential of the proposed concept to address the program goals described in this document.
- Sound technical and managerial approach to the proposed work, including a demonstrated understanding of the critical technology challenges required to address the desired system performance parameters and a strategy to address those issues, including a risk mitigation strategy.
- Capability to perform proposed work and history of performance of the Team and Team members in developing related technologies and systems.
- Cost realism.

The final evaluation will be based upon an assessment of the overall best value to the government based upon these criteria.

7.3 Review and Selection Process

It is the policy of HSARPA to ensure an impartial, equitable, and comprehensive evaluation of all Proposals and to select the source (or combination of sources) whose offer is most advantageous for the Government. In order to provide the desired evaluation, Government evaluators and employees and subcontractors of a support contractor will review each submission. These personnel will have signed, and will be subject to, the terms and conditions of non-disclosure agreements. Bidders may request a government-only review, but must indicate so during the White Paper and/or Proposal registration at http://www.hsarpabaa.com.

8 LIST OF ATTACHMENTS

8.1 Appendix A: List of Excluded Bidders
8.2 Appendix B: List of Acronyms
8.3 Appendix C: OTA Rules and Model Agreement
8.4 Appendix D: Testing and Evaluation
8.5 Appendix E: Quad Chart Format
8.6 Appendix F: Organizational Conflict of Interest

8.1 Appendix A: List of Excluded Bidders

This solicitation is a Broad Agency Announcement (BAA) considered to be full and open competition. Therefore any entity other than the following DoE National Laboratories may submit responses to this solicitation:

1) Lawrence Livermore National Laboratory
2) Los Alamos National Laboratory
3) Oak Ridge National Laboratory
4) Pacific Northwest National Laboratory
5) Sandia National Laboratory
6) Brookhaven National Laboratory
7) Argonne National Laboratory
8) Idaho National Environmental and Engineering Laboratory
9) Remote Sensing Laboratory

The DoE National Laboratories listed above, termed DHS strategic partner laboratories, are prohibited because of their direct participation in DHS programs through the Office of Research and Development. These DHS strategic partner laboratories are not permitted to propose as the lead or prime contractor under this solicitation, nor may they be included on any team except under the very limited circumstances of providing transition-ready technologies as described in detail below. The nine DHS strategic partner laboratories are permitted to participate in this solicitation only under the very limited circumstances described in this Appendix. The principles which guide this participation are:

- Due to the potential for access to internal DHS data and the provision of stewardship funding, DHS strategic partner laboratories may not participate in HSARPA solicitations except under the very limited circumstances described below.

- DHS strategic partner laboratories may not propose directly to this solicitation or participate in any manner in the development of responses to this solicitation outside of the process here defined.

- DHS strategic partner laboratories may collaborate with HSARPA bidders by providing explicitly identified transition-ready technologies subject to DoE and DHS approval. It is on the initiative of the providing laboratory to identify which technologies are transition-ready.

- DHS strategic partner laboratories may collaborate with HSARPA bidders by providing explicitly identified and unique supporting capabilities subject to DoE and DHS approval. It is on the initiative of the providing laboratory to identify which supporting capabilities are available to HSARPA bidders.

- HSARPA will neither encourage nor discourage bidders from incorporating DHS strategic partner laboratory technologies. This inclusion of these technologies is

at the sole discretion of bidders in their evaluation of best value and best technical response to the government under this solicitation.

- All collaborations between HSARPA performers and DHS strategic partner laboratories are subject to any additional restrictions imposed by either the collaborating laboratory or the DoE.

- Laboratories other than those identified as DHS strategic partners may participate directly in this solicitation, similar to any other FFRDC, subject to any restrictions imposed by the policies of the individual laboratory and the DoE.

The process for DHS strategic partner participation in this HSARPA solicitation is defined below:

1) The nine DHS strategic partner laboratories, at their initiative, will propose a list of transition ready technologies or unique supporting capabilities. This list is subject to the approval of DHS S&T (ORD & HSARPA). Once approved, this list is published at www.hsarpabaa.com with supporting technical documentation.

2) Bidders may request the addition of technologies not listed as part of this BAA. This request must be submitted to HSARPA and is subject to the approvals identified in 1).

3) Bidders may NOT directly contact the DHS strategic partner laboratories with regard to this solicitation. Bids which include DHS strategic partner laboratory participation outside of this process will be rejected without review.

4) For the purposes of the white paper submission, bidders may identify as part of their technical solution any of the listed transition-ready technologies or unique supporting technologies without laboratory, DHS or DoE consultation or approval. This consultation and approval will be required prior to submission of a full Proposal.

5) Bidders may request from HSARPA a technical POC for any of the listed technologies. Based upon the number of inquiries and other factors, individual DHS strategic partner laboratories may elect not to provide additional technical data beyond the public technical disclosures at the white paper stage.

6) White papers will be evaluated assuming the requested technologies will be made available to the proposer.

7) White Papers submitters who are encouraged to submit a full Proposal which includes DHS strategic partner participation will be provided a DHS strategic partner laboratory POC for the identified technologies.

8) Bidders who wish to submit a full Proposal without an encouraged white paper may directly request, and will be provided a DHS strategic partner laboratory POC for the identified technologies from HSARPA.

9) HSARPA will provide a single DHS strategic partner laboratory POC for each laboratory to all requestors. This POC is responsible to ensure that technical discussion with the bidders are limited to the technologies and capabilities listed and must explicitly ensure that no discussions involve any internal DHS data provided to the lab.

10) Prior to submission of a full Proposal, bidders must negotiate a statement of work including costs with the appropriate lab partner which must be submitted as part of the full Proposal. This negotiation is subject to all normal laboratory and DoE policies with regard to collaboration and technology transition.

11) Selected Proposals which include DHS strategic partner laboratory participation are subject to final approval of either the SSA or the HSARPA Director with regards to the level of effort and scope of the DHS strategic partner's participation.

12) Selected Proposals may be subject to final negotiation of any technology transfer or collaborative agreements needed to implement the proposed work.

8.2 Appendix B: List of Acronyms

BAA ..... Broad Agency Announcement
BAND ..... Bioagent Autonomous Networked Detectors
BIAD ..... Bioinformatics and Assay Development
BioFACS ..... Biological Fast Aerosol Countermeasure System
BioCADS ..... Biological Confirmation and Detection System
CDR ..... Critical Design Review
DHS ..... Department of Homeland Security
DoD ..... Department of Defense
DOE ..... Department of Energy
DSBCC ..... Detection Systems for Biological and Chemical Countermeasures
EDT ..... Eastern Daylight Time
FAR ..... False Alarm Rate
FedBizOpps ..... Federal Business Opportunities (www.FedBizOpps.gov)
FFRDC ..... Federally Funded Research and Development Centers
GFR ..... Government Furnished Resources
GFT ..... Government Furnished Technologies
GST ..... Government Sponsored Testbed
HBCU ..... Historically Black Colleges and Universities
HSARPA ..... Homeland Security Advanced Research Projects Agency
HUB ..... Historically Underutilized Business
IBADS ..... Instantaneous Bio-Aerosol Detector Systems
IR&D ..... Independent Research and Development
LOD ..... Level of Detection
MI ..... Minority Institutions
OTA ..... Other Transaction Authority
PDF ..... Portable Document Format
PDR ..... Preliminary Design Review
PIP ..... Proposer Information Pamphlet
R&D ..... Research and Development
RA ..... Research Announcement
RABIS ..... Rapid Automated Biological Identification System
SSA ..... Source Selection Authority
S&T ..... Science and Technology
SDB ..... Small Disadvantaged Business
SOW ..... Statement of Work
TTA ..... Technical Topic Area
US ..... United States
VBAIDS ..... Volumetric Bio-Aerosol Detection Systems
WB ..... Women-owned Business

8.3 Appendix C: OTA Rules and Model Agreement

Section 831(a)(2) of the Homeland Security Act of 2002 (Public Law 107-296) gives the Department of Homeland Security (DHS) the same "Other Transactions for Prototypes" authority exercised by the Department of Defense (DoD) under 10 U.S.C. §2371 . Section 831(a)(2) also imposes the same criteria for award of an "Other Transactions for Prototypes" agreement on DHS as was given to DoD. In summary, these criteria require that:

1) there must be either at least one nontraditional government contractor participating to a significant extent in the prototype project; or,
2) if there is no nontraditional government contractor participating to a significant extent, at least one of the following circumstances exists:

    i) at least one third of the total cost of the prototype project is to be paid with funds provided by parties to the transaction other than the Federal Government; or,
    ii) the senior procurement executive determines that exceptional circumstances justify the use of a transaction that provides for innovative business arrangements or structures that would not be feasible or appropriate under a contract.

In this context, a "nontraditional contractor" is defined as:

1) an entity that has not, for a period of at least one year prior to the date that a transaction (other than a contract, grant, or cooperative agreement) for a prototype project under the authority of this section is entered into, entered into or performed with respect to:

    i) any contract that is subject to full coverage under the cost accounting standards prescribed pursuant to section 26 of the Office of Federal Procurement Policy Act (41 U.S.C. 422) and the regulations implementing such section; or
    ii) any other contract in excess of $500,000 to carry out prototype projects or to perform basic, applied, or advanced research projects for a Federal agency, that is subject to the Federal Acquisition Regulation.

The Government has discretion in determining the level of "significant extent." Some factors may include:

1) criticality of the technology being contributed
2) role of the non-traditional government contractor(s) in the design process
3) value of the effort being proposed

Contributions for items such as IR&D reimbursement, G&A, cost of money, and fee identified separately will meet the statutory cost-share requirement and are preferred to in-kind contributions. It is not the Government's intention to encourage or require use of the cost share criteria. The Government prefers that the teams attempt to locate

appropriate non-traditional team members before offering cost share. If the team cannot or chooses not to find nontraditional team members or provide cost share, the team may request a waiver of these requirements. The team should describe the innovative business arrangements or structures that would justify the exercise of such a waiver. The Government will consider all waiver requests but reserves the right to grant any, all or none of the requests at its discretion.

MODEL OTHER TRANSACTION (OT) AGREEMENT – *NOTE: HSARPA is willing to negotiate terms and conditions in the Offerors proposed agreement prior to receipt of the Proposal. This negotiation may begin immediately upon receipt of proposed agreement.*
OTHER TRANSACTION FOR PROTOTYPE

BETWEEN

<INSERT NAME AND ADDRESS>

AND

THE UNITED STATES ARMY MEDICAL RESEARCH ACQUISITION ACTIVITY
820 CHANDLER ST.
FT. DETRICK, MD 21702-5014

ON THE BEHALF OF

THE HOMELAND SECURITY ADVANCED RESEARCH PROJECTS AGENCY
7TH & D ST., SW
WASHINGTON, DC 20528

CONCERNING:
<INSERT NAME OF TECHNICAL TOPIC AREA>
PHASE I – Insert title of Phase
Agreement No.:
HSARPA Order No.:
Total Estimated Government Funding of the Phase I Agreement: $
Team's Cost Share/Contribution: $
Funds Obligated: $
Authority: Section 831 of the Homeland Security Act of 2002, Public Law 107-296
Line of Appropriation: AA
This Agreement is entered into between the United States of America, hereinafter called the "Government", represented by the United States Army Medical Research Acquisition Activity (USAMRAA) on the behalf of the Homeland Security Advanced Research Projects Agency (HSARPA), and ***<INSERT NAME>***, pursuant to and under U.S. Federal law.

FOR ***<INSERT NAME>***	FOR THE UNITED STATES OF AMERICA
_____	_____
<INSERT NAME, TITLE>	Agreements Officer
_____	_____
Date	Date

TABLE OF CONTENTS

ARTICLES PAGE

ATTACHMENTS

ATTACHMENT 1 – DHS SECURITY DOCUMENTATION – DD FORM 254
ATTACHMENT 2 – PROGRAM SECURITY CLASSIFICATION GUIDE (RESERVED)
ARTICLE I: SCOPE OF THE AGREEMENT

THIS ARTICLE SHOULD STATE YOUR VISION FOR PHASE I OF THE HSARPA INSTANTANEOUS BIO-AEROSOL DETECTOR SYSTEMS AND DESCRIBE HOW YOUR PROPOSED PROGRAM SATISFIES THE STATEMENT OF OBJECTIVES. IF THERE ARE DUAL OR COMMERCIAL USES OF THE DEVELOPED TECHNOLOGIES, BE SURE TO INCLUDE THEM BUT DISCUSS THE GOVERNMENT USES FIRST.

IN ADDITION, THIS ARTICLE SHOULD DISCUSS THE WAY YOU WILL INTERACT WITH THE HSARPA PROGRAM TEAM. SUGGESTED WORDING (I.E., PARAGRAPHS USED IN OTHER HSARPA AGREEMENTS) FOR YOUR CONSIDERATION FOLLOWS:

"The Government will have continuous involvement with <*INSERT NAME*>. The Government will obtain access to program results and certain rights to patents and data pursuant to Articles VIII and IX. The Government and <*INSERT NAME*> are bound to each other by a duty of good faith and best effort in achieving the program objectives."

"This Agreement is an 'other transaction' pursuant to Section 831 of the Homeland Security Act of 2002, Public Law 107-296. The Parties agree that the purpose of this Agreement is to acquire <*INSERT NAME*>'s best efforts in development of design concepts and trade-off studies supporting that design. The delivery of this design is a prototype within the meaning of the above-mentioned statute. The Federal Acquisition Regulation (FAR) applies only as specifically referenced herein. This Agreement is not intended to be, nor shall it be construed as, by implication or otherwise, a partnership, a corporation, or other business organization."

TERMS SUCH AS "TEAM," "TEAM MEMBERS" AND "PROGRAM," ETC. SHOULD ALSO BE DEFINED IN THIS ARTICLE.

"NON-TRADITIONAL" TEAM MEMBERS SHOULD BE IDENTIFIED, AND CERTIFICATION OF QUALIFICATION FOR AN OT AWARD SHOULD ALSO BE INCLUDED IN THIS ARTICLE.

ARTICLE II: TERM

A. The Term of this Agreement
This Agreement commences upon the date of the last signature hereon and continues for the duration of the Insert name of phase, Phase I. For planning purposes, the estimated period of performance for Phase I is the date of award through Insert time period of

Phase. This Agreement will be updated to modify the Agreement for the teams entering into Phase II, Insert Title of Phase II. Completion criteria for Phase I are defined in Article IV, Payable Event Schedule and Deliverables.

B. Termination Provisions
Subject to a reasonable determination that this Agreement will not produce beneficial results commensurate with the expenditure of resources, either Party may terminate this Agreement by written notice to the other Party, provided that such written notice is preceded by consultation between the Parties. In the event of a termination of the Agreement, it is agreed that disposition of data developed under this Agreement, shall be in accordance with the provisions set forth in Articles IX, Data Rights. The Government and ***<INSERT NAME>*** will negotiate in good faith a reasonable and timely adjustment of all outstanding issues between the Parties as a result of termination. Failure of the Parties to agree to a reasonable adjustment will be resolved pursuant to Article VII, Disputes. The Government has no obligation to reimburse ***<INSERT NAME>*** beyond the last completed and paid milestone if ***<INSERT NAME>*** decides to terminate.

C. Extending the Term
The Parties may extend by mutual written agreement the term of this Agreement if funding availability and research opportunities reasonably warrant. Any extension shall be formalized through modification of the Agreement by the Agreements Officer and <INSERT NAME>.

ARTICLE III: STATEMENT OF OBJECTIVES
THIS ARTICLE SHOULD ALSO SUMMARIZE THE SCOPE OF THE WORK AND THE BUSINESS ARRANGEMENT TO WHICH YOU ARE COMMITTING (AS DESCRIBED IN DETAIL IN THIS ARTICLE, STATEMENT OF OBJECTIVES) BY ENTERING INTO THIS AGREEMENT

YOU WILL INCLUDE HERE OR REFERENCE YOUR PROPOSED STATEMENT OF WORK (SOW) IN ACCORDANCE WITH THE GUIDANCE PROVIDED IN THE SOLICITATION. THIS SOW DESCRIBES THE TASKS THAT YOU MUST ACCOMPLISH TO BE SUCCESSFUL IN THIS CONCEPT DEVELOPMENT AND SYSTEM TRADES PHASE (PHASE I). CONSIDER THE GOVERNMENT PHASE I STATEMENT OF OBJECTIVES, THE OVERALL UCAR PROGRAM GOALS AND OTHER GUIDANCE PROVIDED IN THE SOLICITATION.

ARTICLE IV: PAYABLE EVENT SCHEDULE AND DELIVERABLES

A. Payment Schedule
<INSERT NAME> shall perform the work required by Article III and the attached Statement of Work. ***<INSERT NAME>*** shall be paid for each payable milestone accomplished and delivered in accordance with the Schedule of Payments and Payable Milestones set forth below. USG shall propose the accomplishment criteria for the events listed below. The Schedule of Payments and Payable Milestones may be revised or modified in accordance with subparagraph C. of this Article.

B. Schedule of Payments and Payable Milestones
<YOU SHOULD INCLUDE HERE A SCHEDULE OF PAYMENTS AND PAYABLE MILESTONES, ACCOMPLISHMENT CRITERIA AND DELIVERABLES. REFERENCE GOVERNMENT PROVIDED CRITERIA IN SOLICITATION AS A STARTING POINT FOR YOUR PROPOSAL.>

C. Modifications
1. At any time during the term of the Agreement, progress or results may indicate that a change in the Statement of Objectives, Statement of Work and/or the Payable Milestones would be beneficial to the program objectives. Recommendations for modifications, including justifications to support any changes to the Statement of Objectives, Statement of Work and/or the Payable Milestones, will be documented in a letter and submitted by ***<INSERT NAME>*** to the Government Program Manager with a copy to the Government Agreements Officer. This letter will detail the technical, chronological, and financial impact of the proposed modification to the research program. Any resultant modification is subject to mutual agreement of the parties. The Government is not obligated to pay for additional or revised Payable Milestones until the Payable Milestones Schedule is formally revised by the Government Agreements Officer and made part of this Agreement.
2. The Government Program Manager shall be responsible for the review and verification of milestone accomplishment criteria and any recommendations to revise or otherwise modify the Agreement Statement of Objectives, Statement of Work and/or Schedule of Payments and Payable Milestones, or other proposed changes to the terms and conditions of this Agreement.
3. For minor or administrative Agreement modifications (e.g., changes in the paying office or appropriation data, changes to Government or Team personnel identified in the Agreement, etc.), the Government shall make these types of changes unilaterally
4. The Government will be responsible for effecting all modifications to this Agreement.

ARTICLE V: AGREEMENT ADMINISTRATION
Administrative and contractual matters under this Agreement shall be referred to the following representatives of the parties:

Government:

<INSERT NAME >: <INSERT NAME, TITLE AND TELEPHONE NUMBER OF REP>

Technical matters under this Agreement shall be referred to the following representatives:

Government:
<INSERT NAME >: <INSERT NAME, TITLE AND TELEPHONE NUMBER OF REP>

Either party may change its representatives named in this Article by written notification to the other party. The Government will effect the change as stated in subparagraph C.4 of Article IV above.

ARTICLE VI: OBLIGATION AND PAYMENT

A. Obligation
The Government's liability to make payments to ***<INSERT NAME >*** is limited to only those funds obligated under this Agreement or by amendment to the Agreement. The Government may obligate funds to the Agreement incrementally.

B. Payments
1. The following information shall be included on each invoice:
Agreement Number
Invoice Number
A description of services performed
Quantity of service received or performed
The time of period covered by the invoice
Terms of Payment
Payment Office
Amount claimed

2. ***<INSERT NAME >*** shall document each Payable Milestone by submitting deliverables in accordance with the Payable Milestone Schedule and Accomplishment Criteria. ***<INSERT NAME >*** shall submit an original and one (1) copy of all invoices to the Agreements Officer for payment approval. After written verification of the accomplishment of the Payable Milestone by the Government Program Manager, and approval by the Agreements Officer, the invoices will be forwarded to the payment office within fifteen (15) calendar days of receipt of the invoices by the Government. Payment approval for the final Payable Milestone will be made after reconciliation. Payments will be made by the appropriate Government paying office within fifteen (15) calendar days of the Government's transmittal. Subject to change only through written Agreement modification, payment shall be made via electronic funds transfer to the Contractor's address set forth below:

3. Bank Account of Payee: ***<INSERT>***
Bank: ***<INSERT>***
Address: ***<INSERT>***
Routing Transit Number: ***<INSERT>***
Depositor Account Title: ***<INSERT>***
Depositor Number: ***<INSERT>***

4. Financial Records and Reports: ***<INSERT NAME >***'s relevant financial records associated with this Agreement are not subject to examination or audit by the Government, except as noted below, since the confirmed accomplishment of the appropriate milestone completes the obligation of both parties.

5. Comptroller General Access to Records: To the extent that the total Government payments under this Agreement exceed $5,000,000, the Comptroller General, at its discretion, shall have access to and the right to examine records of any party to the Agreement or any entity that participates in the performance of this Agreement that directly pertain to and involve transactions relating to, the Agreement for a period of three (3) years after final payment is made. This requirement shall not apply with respect to any party to this Agreement or any entity that participates in the performance of the Agreement, or any subordinate element of such party or entity, that has not entered into any other agreement (contract, grant, cooperative agreement, or "other transaction") that provides for audit access by a government entity in the year prior to the date of this Agreement. This paragraph only applies to any record that is created or maintained in the ordinary course of business or pursuant to a provision of law. The terms of this paragraph shall be included in all sub-agreements to the Agreement.

ARTICLE VII: DISPUTES

A. General
The Parties shall communicate with one another in good faith and in a timely and cooperative manner when raising issues under this Article.

B. Dispute Resolution Procedures
1. Any disagreement, claim or dispute between the Government and ***<INSERT NAME >*** concerning questions of fact or law arising from or in connection with this Agreement, and, whether or not involving an alleged breach of this Agreement, may only be raised under this Article.

2. Whenever disputes, disagreements, or misunderstandings arise, the Parties shall attempt to resolve the issue(s) involved by discussion and mutual agreement as soon as practicable. In no event shall a dispute, disagreement or misunderstanding which arose more than three (3) months prior to the notification made under subparagraph B.3 of this Article constitute the basis for relief under this Article unless the Director of HSARPA in the interests of justice waives this requirement.

3. Failing resolution by mutual agreement, the aggrieved Party shall document the dispute, disagreement, or misunderstanding by notifying the other Party (through the Government Agreements Officer) in writing of the relevant facts, identify unresolved issues, and specify the clarification or remedy sought. Within five (5) working days after providing notice to the other Party, the aggrieved Party may, in writing, request a joint decision by the HSARPA Deputy Director, and the ***<INSERT TITLE OF REPRESENTATIVE>.*** The other Party shall submit a written position on the matter(s) in dispute within thirty (30) calendar days after being notified that a decision has been requested. The HSARPA Deputy Director and the ***<INSERT TITLE OF REPRESENTATIVE>*** shall conduct a review of the matter(s) in dispute and render a decision in writing within thirty (30) calendar days of receipt of such written position. Any such joint decision is final and binding.

4. In the absence of a joint decision, upon written request to the Director of HSARPA, made within thirty (30) calendar days or upon unavailability of a joint decision under subparagraph B.3 above, the dispute shall be further reviewed. The Director of HSARPA may elect to conduct this review personally or through a designee or jointly with ***<INSERT TITLE OF SENIOR REPRESENTATIVE>***. Such resolution is not subject to further administrative review and, to the extent permitted by law, shall be final and binding.

ARTICLE VIII: PATENT RIGHTS

A. Definitions
1. "Invention" means any invention or discovery which is or may be patentable or otherwise protectable under Title 35 of the United States Code.
2. "Made" when used in relation to any invention means the conception or first actual reduction to practice of such invention.
3. "Practical application" means to manufacture, in the case of a composition of product; to practice, in the case of a process or method, or to operate, in the case of a machine or system; and, in each case, under such conditions as to establish that the invention is capable of being utilized and that its benefits are, to the extent permitted by law or Government regulations, available to the public on reasonable terms.
4. "Subject invention" means any invention of a Team Member conceived or first actually reduced to practice in the performance of work under this Agreement.

B. Allocation of Principal Rights
<INSERT NAME > shall retain the entire right, title, and interest throughout the world to each subject invention consistent with this Article and 35 U.S.C. § 202. With respect to any subject invention in which ***<INSERT NAME>*** retains title, the Government shall have a non-exclusive, nontransferable, irrevocable, paid-up license to practice or have practiced on behalf of the United States the subject invention throughout the world. Notwithstanding the above, ***<INSERT NAME >*** may elect to provide full or partial rights that it has retained to Team Members or other parties.

C. Action to Protect the Government's Interest
1. ***<INSERT NAME >*** agrees to execute or to have executed and promptly deliver to the Government instruments necessary to establish or confirm the rights the Government has throughout the world in those subject inventions to which ***<INSERT NAME >*** elects to retain title and to enable the Government to obtain patent protection throughout the world in that subject invention.
2. ***<INSERT NAME >*** shall include, within the specification of any United States patent application and any patent issuing thereon covering a subject invention, the following statement: "This invention was made with Government support under Agreement No. *(Agreement number will be inserted at time of the award)* awarded by the Government. The Government has certain rights in the invention."

D. Lower Tier Agreements

<INSERT NAME > shall include this Article, suitably modified, to identify the Parties, in all subcontracts or lower tier agreements, regardless of tier, for experimental, development, or research work.

E. Reporting on Utilization of Subject Inventions
<INSERT NAME > agrees to submit a final report on the utilization of a subject invention or on efforts at obtaining such utilization that are being made by ***<INSERT NAME >*** or its licensees or assignees. The report shall include information regarding the status of development, date of first commercial sale or use, gross royalties received by the Team subcontractor(s), and such other data and information as the agency may reasonably specify. ***<INSERT NAME >*** also agrees to provide additional reports as may be requested by the Government in connection with any march-in proceedings undertaken by the Government in accordance with paragraph G. of this Article. Consistent with 35 U.S.C. § 202(c)(5), the Government agrees it shall not disclose such information to persons outside the Government without permission of ***<INSERT NAME***.

F. Preference for American Industry
Notwithstanding any other provision of this Article, ***<INSERT NAME >*** agrees that it shall not grant to any person the exclusive right to use or sell any subject invention in the United States or Canada unless such person agrees that any product embodying the subject invention or produced through the use of the subject invention shall be manufactured substantially in the United States or Canada. However, in individual cases, the requirements for such an agreement may be waived by the Government upon a showing by ***<INSERT NAME >*** that reasonable but unsuccessful efforts have been made to grant licenses on similar terms to potential licensees that would be likely to manufacture substantially in the United States or that, under the circumstances, domestic manufacture is not commercially feasible.

G. March-in Rights
<INSERT NAME > agrees that, with respect to any subject invention in which it has retained title, the Government has the right to require ***<INSERT NAME >***, an assignee, or exclusive licensee of a subject invention to grant a non-exclusive license to a responsible applicant or applicants, upon terms that are reasonable under the circumstances, and if ***<INSERT NAME >***, assignee, or exclusive licensee refuses such a request, the Government has the right to grant such a license itself if the Government determines that:
1. Such action is necessary because ***<INSERT NAME >*** or assignee has not taken effective steps, consistent with the intent of this Agreement, to achieve practical application of the subject invention;
2. Such action is necessary to alleviate health or safety needs that are not reasonably satisfied by ***<INSERT NAME >***, assignee, or their licensees;
3. Such action is necessary to meet requirements for public use and such requirements are not reasonably satisfied by ***<INSERT NAME >***, assignee, or licensees; or
4. Such action is necessary because the agreement required by paragraph C.1.of this Article VIII has not been obtained or waived or because a licensee of the exclusive right to use or sell any subject invention in the United States is in breach of such agreement**.**

ARTICLE IX: DATA RIGHTS

Government Purpose Rights in all data delivered under this FILL IN TITLE OF PHASE (Phase I) Agreement is for this Phase. The following standard Government Data Rights Article is offered as a point of departure in this case.

A. Definitions

1. "Government Purpose Rights", as used in this Article, means rights to use, duplicate, or disclose Data, in whole or in part and in any manner, for Government purposes only, and to have or permit others to do so for Government purposes only.
2. "Unlimited Rights", as used in this Article, means rights to use, duplicate, release, or disclose, Data in whole or in part, in any manner and for any purposes whatsoever, and to have or permit others to do so.
3. "Data", as used in this Article, means recorded information, regardless of form or method of recording, which includes but is not limited to, technical data, software, trade secrets, and mask works. The term does not include financial, administrative, cost, pricing or management information and does not include subject inventions included under Article VIII.
4. "Limited Rights" as used in this Article means the rights to use, modify, reproduce, release, perform, display, or disclose technical data, in whole or in part, within the Government. The Government may not, without the written permission of the party asserting limited rights, release or disclose the data outside the Government, use the technical data for manufacture, or authorize the technical data to be used by another party.
5. "Government" as used in this Article means Federal, state or local Governments.

B. Allocation of Principal Rights

1. The Parties agree that in consideration for Government funding, ***<INSERT NAME >*** intends to reduce to practical application items, components and processes developed under this Agreement.

2. ***<INSERT NAME >*** agrees to retain and maintain in good condition until ***<INSERT NUMBER OF YEARS>*** years after completion or termination of this Agreement, all Data necessary to achieve practical application. In the event of exercise of the Government's March- in Rights as set forth under Article VIII or subparagraph B.3 of this Article, ***<INSERT NAME >***, agrees, upon written request from the Government, to deliver at no additional cost to the Government, all Data necessary to achieve practical application within sixty (60) calendar days from the date of the written request. The Government shall retain Unlimited Rights, as defined in paragraph A above, to this delivered Data.

3. ***<INSERT NAME >*** agrees that, with respect to data necessary to achieve practical application, the Government has the right to require ***<INSERT NAME >*** to deliver all such data to the Government in accordance with its reasonable directions if the Government determines that:

(a) Such action is necessary because ***<INSERT NAME >*** or assignee has not taken effective steps, consistent with the intent of this Agreement, to achieve practical application of the technology developed during the performance of this Agreement;
(b) Such action is necessary to alleviate health or safety needs which are not reasonably satisfied by ***<INSERT NAME >***, assignee, or their licensees; or
(c) Such action is necessary to meet requirements for public use and such requirements are not reasonably satisfied by ***<INSERT NAME >***, assignee, or licensees.

4. With respect to data delivered pursuant to the terms of this Agreement, the Government shall receive Government Purpose Rights, as defined in paragraph A above. With respect to all Data delivered, in the event of the Government's exercise of its right under subparagraph B.2 of this Article, the Government shall receive Unlimited Rights.

C. Marking of Data
Pursuant to paragraph B above, any data delivered under this Agreement shall be marked with the following legend:
"Use, duplication, or disclosure is subject to the restrictions as stated in Agreement *(Agreement number will be inserted at time of award)* between the Government and ***<INSERT NAME >***."

D. Lower Tier Agreements
<INSERT NAME > shall include this Article, suitably modified to identify the Parties, in all subcontracts or lower tier agreements, regardless of tier, for experimental, developmental, or research work.

ARTICLE X: FOREIGN ACCESS TO TECHNOLOGY
NOTE: IT IS THE GOVERNMENT'S INTENTION TO RESTRICT THIS TECHNOLOGY FROM FLOWING OVERSEAS WITHOUT APPROVAL TO ENSURE THE ECONOMIC AND SECURITY ISSUES HAVE BEEN RESOLVED PRIOR TO ANY RELEASE. IF THE OFFERORS DESIRE PROPOSED CHANGES TO THIS ARTICLE, THEY SHOULD EXPLAIN THE RATIONALE COMPLETELY.
This Article shall remain in effect during the term of the Agreement and for five years thereafter.

A. Definitions

"Foreign Firm or Institution" means a firm or institution organized or existing under the laws of a country other than the United States, its territories, or possessions. The term includes, for purposes of this Agreement, any agency or instrumentality of a foreign government; and firms, institutions or business organizations that are owned or substantially controlled by foreign governments, firms, institutions, or individuals.

"Know-How" means all information including, but not limited to discoveries, formulas, materials, inventions, processes, ideas, approaches, concepts, techniques, methods,

software, programs, documentation, procedures, firmware, hardware, technical data, specifications, devices, apparatus and machines.

"Technology" means discoveries, innovations, Know-How and inventions, whether patentable or not, including computer software, recognized under U.S. law as intellectual creations to which rights of ownership accrue including, but not limited to, patents, trade secrets, mask works, and copyrights developed under this Agreement.

B. General
The Parties agree that research findings and technology developments in bio-detection technology may constitute a significant enhancement to the homeland security, and to the economic vitality of the United States. Accordingly, access to important technology developments under this Agreement by Foreign Firms or Institutions must be carefully controlled. The controls contemplated in this Article are in addition to, and are not intended to change or supersede, the provisions of the International Traffic in Arms Regulation (22 CFR pt. 121 et seq.), the DoD Industrial Security Regulation (DoD 5220.22-R) and the Department of Commerce Export Regulation (15 CFR pt. 770 et seq.)

C. Restrictions on Sale or Transfer of Technology to Foreign Firms or Institutions
1. In order to promote the homeland security interests of the United States and to effectuate the policies that underlie the regulations cited above, the procedures stated in subparagraphs C.2, C.3, and C.4 below shall apply to any transfer of Technology. For purposes of this paragraph, a transfer includes a sale of the company, and sales or licensing of Technology. Transfers do not include:
(a) sales of products or components, or
(b) licenses of software or documentation related to sales of products or components, or
(c) transfer to foreign subsidiaries of the Contractor for purposes related to this Agreement, or
(d) transfer which provides access to Technology to a Foreign Firm or Institution which is an approved source of supply or source for the conduct of research under this Agreement provided that such transfer shall be limited to that necessary to allow the firm or Institution to perform its approved role under this Agreement.

2. ***<INSERT NAME >*** shall provide timely notice to the Government of any proposed transfers from ***<INSERT NAME >*** of technology developed with Government funding under this Agreement to Foreign Firms or Institutions. If the Government determines that the transfer may have adverse consequences to the national security interests of the United States, the Team, its vendors, and the Government shall jointly endeavor to find alternatives to the proposed transfer which obviate or mitigate potential adverse consequences of the transfer but which provide equivalent benefits to the Team.

3. In any event, ***<INSERT NAME >*** shall provide written notice to the Government Program Manager and Agreements Officer of any proposed transfer to a foreign firm or institution at least sixty (60) calendar days prior to the proposed date of transfer. Such notice shall cite this Article and shall state specifically what is to be transferred and the general terms of the transfer. Within thirty (30) calendar days of receipt of ***<INSERT***

NAME >'s written notification, the Government Agreements Officer shall advise ***<INSERT NAME >*** whether it consents to the proposed transfer. In cases where the Government does not concur, ***<INSERT NAME >*** may utilize the procedures under Article VII, Disputes. No transfer shall take place until a decision is rendered. In cases where the Government fails to provide an answer within sixty (60) calendar days after receipt, consent shall be considered to have been granted.

4. Except as provided in subparagraph C.1 above and in the event the transfer of Technology to Foreign Firms or Institutions is not approved by the Government, the Team shall (a) refund to the Government funds paid for the development of the Technology and (b) negotiate a license with the Government to the Technology under terms that are reasonable under the circumstances.

D. Lower Tier Agreements
<INSERT NAME > shall include this Article, suitably modified, in all subcontracts or lower tier agreements, for experimental, developmental, or research work.

ARTICLE XI: CIVIL RIGHTS ACT
This Agreement is subject to the requirements of Title VI of the Civil Rights Act of 1964 as amended (42 U.S.C. 2000-d) relating to nondiscrimination in employment.

ARTICLE XII: GOVERNMENT FURNISHED EQUIPMENT PROPERTY, INFORMATION FACILITIES AND SERVICES
The following Government Equipment property, information facilities, and services shall be provided upon the written approval of the cognizant contracting officers:
<LIST ALL DESIRED GFE, GFP, GFI, GFF, AND GFS>

ARTICLE XIII: SECURITY
This program shall be provided protection as required by the appropriate security requirements required by the attached Form DD 254 (Attachment 1) and the Program Security Classification Guide (Attachment 2).

ARTICLE XIV: OPTIONAL FUTURE PHASES

The Government reserves the right to modify this Agreement to include terms and conditions for Phase II and Phase III. The cost, technical content and duration of these additional periods shall be subject to negotiation between the parties. The parameters associated with Phase II shall be negotiated and agreed to prior to completion of Phase I.

ARTICLE XV: ORDER OF PRECEDENCE

In the event of any inconsistency between the terms of this Agreement and its Attachments, the inconsistency shall be resolved by giving precedence in the following order: (1) the Agreement, (2) all other Attachments to the Agreement.

ARTICLE XVI: ENTIRE AGREEMENT

This Agreement constitutes the entire agreement of the Parties and supersedes all prior and contemporaneous agreements, understandings, negotiations and discussions among the Parties, whether oral or written, with respect to the subject matter hereof. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. This Agreement shall not be binding until the execution and delivery between each of the Parties of at least one set of counterparts.

ATTACHMENTS

ATTACHMENT 1 – DHS SECURITY DOCUMENTATION – DD FORM 254

ATTACHMENT 2 – PROGRAM SECURITY CLASSIFICATION GUIDE (RESERVED)

8.4 Appendix D: Notional Testing and Evaluation Plan

Test Sample Matrix Components:

1. *Bg* spores- clean (APG-SIM)
2. *Bg* spores- prep 2
3. *Bt* spores- clean
4. Mold spores (Greer)
5. MS2 dirty (APG-SIM)
6. Ovalbumin (Sigma)
7. Gram (-) rod (BSL1)
8. Background mix
9. Diesel soot (NIST)
10. Office dust (Greer)

Aerosol Challenges:

- TTA1 and TTA 3 chamber challenges with simulant levels 1,000, 10,000 and 100,000 CFU(PFU)/liter of air (spore, vegetative, and virus simulants). Toxin simulant challenges of 0.5, 5 and 50 ng/liter of air.
- TTA 2 chamber challenges with simulant levels 100, 1,000 and 10,000 CFU(PFU)/liter of air (spore, vegetative, and virus simulants). Toxin simulant challenges of 0.05, 0.5 and 5 ng/liter of air.
- Particle size will be in the 1 to 10 micron size range
- Challenges will consist of mixtures of multiple simulants, near neighbor and clutter
- P_d measurements with simulant only and simulant with clutter
- P_{fp} measurements using a variety of clutter mixtures

PDR Testing:

- Aerosol challenges using mixtures from the test sample matrix.
- False positive challenges will include clutter, and mixtures of selected organisms (other simulants, near neighbors).

- Performers will be required to set up and operate proposed system at the GST. Performers should specify any special requirements or limitations in their proposal.
- Part 3 technologies or components may be tested with liquid agent if required.

CDR Testing:

- TTAs 1 and 3
    - Wind tunnel trials with aerosol concentrations as described above.
    - During a test window the sensor will be presented with a constant background & a series of transients – clutter, simulant or clutter & simulant
    - Duration of the transients will be ≤ 1 minute with average concentration values as specified in the performance goals
    - Separation between pulses will be at least 1 minute
- TTA 2
    - Wind tunnels and laboratory trials
    - Lab trial to consist of liquid live agent challenges
    - Wind tunnel same as above with longer spacing between transients (to permit confirmation to be completed)

Prototype Evaluation and Testing:

- Extensive field tests
- Live agent testing
- User evaluation

8.5 Appendix E: Quad Chart Format

This template will be available in Microsoft PowerPoint Format at www.hsarpabaa.com.

BAA Number: (Number of the BAA Announcement)

TTA: (insert TTA Number) Part: (Insert Part Number)

Title: (Brief/short Title to describe offerors proposed effort)

Photograph or artist's concept: Provide a simple but sufficiently detailed graphic that will convey the main idea of the final capability/use of the prototype, and its technological methodology. It should further give an idea of the size and weight of the end item.	Operational Capability: Provide information on how the system or system component would meet the goals listed in Section 3: 1) Performance Targets 2) Cost of Ownership 3) System Characteristics
Proposed Technical Approach: Specifically, how will the problem be approached. Describe tasks to be performed. Describe any actions done to date. Describe any related on-going effort by the offeror. Describe the technology involved and how it will be used to solve the problem. Describe the key technical challenges.	Cost and Schedule: Provide any milestone decision points that will be required. Describe period of performance and total costs. Include the Phase I cost and length, and estimates of cost and lengths of subsequent phases. Deliverables: Include all hardware and the following data deliverables: monthly status report, final report, test plans, test reports, specifications, computer program end items, user's manual, drawings, transition plan, etc. Corporate Information: You must include offeror name, POC full name, address, phone numbers and email.

8.6 Appendix F: Organizational Conflict of Interest

ORGANIZATIONAL CONFLICT OF INTEREST

(a) Determination. The Government has determined that this effort may result in an actual or potential conflict of interest, or may provide one or more offerors with the potential to attain an unfair competitive advantage.

(b) If any such conflict of interest is found to exist, the Contracting Officer may (I) disqualify the offeror, or (2) determine that it is otherwise in the best interest of the United States to contract with the offeror and include the appropriate provisions to mitigate or avoid such conflict in the contract awarded. After discussion with the offeror, the Contracting Officer may determine that the actual conflict cannot be avoided, neutralized, mitigated or otherwise resolved to the satisfaction of the Government, and the offeror may be found ineligible for award.

(c) Disclosure: The offeror hereby represents, to the best of its knowledge that:

> (1) It is not aware of any facts which create any actual or potential organizational conflicts of interest relating to the award of this contract, or
>
> (2) It has included information in its proposal, providing all current information bearing on the existence of any actual or potential organizational conflicts of interest, and has included the mitigation plan in accordance with paragraph (d) of this provision.

(d) Mitigation/Waiver. If an offeror with a potential or actual conflict of interest or unfair competitive advantage believes it can be mitigated, neutralized, or avoided, the offeror shall submit a mitigation plan to the Government for review. Award of a contract where an actual or potential conflict of interest exists shall not occur before Government approval of the mitigation plan. If a mitigation plan is approved, the restrictions of this provision do not apply to the extent defined in the mitigation plan. If not defined, then this provision applies fully.

(e) Other Relevant Information: In addition to the mitigation plan, the Contracting Officer may require further relevant information from the offeror. The Contracting Officer will use all information submitted by the offeror, and any other relevant information known to DHS, to determine whether an award to the offeror may take place, and whether the mitigation plan adequately neutralizes or mitigates the conflict.

(f) Corporation Change. The successful offeror shall inform the Contracting Officer within thirty (30) calendar days of the effective date of any corporate mergers, acquisitions, and/or divestures that may affect this provision.

(g) Flow-down. The contractor shall insert the substance of this clause in each first tier subcontract that exceeds the simplified acquisition threshold.

8.7 Appendix G: Glossary

Level of Detection (LOD):	LOD is defined as minimally detectible agent concentration and is normally specified in particles, colony or plaque forming units, or mass for a unit volume of air. LOD (or sensitivity) is meaningful only when presented with the corresponding Probability of Detection, Probability of False Positive, Response Time and Lifecycle Cost.
Probability of False Positive (P_{fp}):	P_{fp} is defined as an erroneous detection of a threat agent caused by noise or other interfering signals exceeding a detection threshold or Level of Detection. In general, it is an indication of the presence of a threat target when there is no valid target.
Probability of Detection (P_d):	P_d is defined as the correct detection of a threat (or other target). It is the correct indication of the presence of a target when the target is truly present.
Lifecycle Cost (Cost of Ownership):	Defined as the sum of all costs related to procurement, maintenance and operation of a sensor system, including all royalties and license fees. Lifecycle cost does not include cost associated with preparation of the installation site.
Response Time:	Time require for a sensor to detect an agent cloud when co-located with a point sensor or within the field of view of a volumetric sensor. Response time is inclusive of the time required to collect a sample, sample preparation, scan time, assay and processing time.
Low Regrets Alarm:	Low-Regret Alarms are warnings that may be used to trigger actions having minimal impact on facility operations. Examples include, but are not limited to: closing air intakes, shutting down or reconfiguring

	HVAC systems, and initiating confirmatory tests.
High Regrets Alarm:	High-Regret Alarms will initiate actions that will greatly alarm or severely inconvenience building or facility occupants and disrupt operations. Examples of high-regret actions include, but are not limited to: shutting down of facilities, evacuation of personnel, and alerting public health and emergency response personnel.
Receiver Operating Characteristics (ROC):	Receiver Operating Characteristics completely describe the LOD as a function of P_d and P_{fp}. ROC curves are specific to the type of agent, clutter conditions, system configuration and operating parameters.